Installation/User's Guide

LIFEGUARD SMARTDOCK™

Patent Pending

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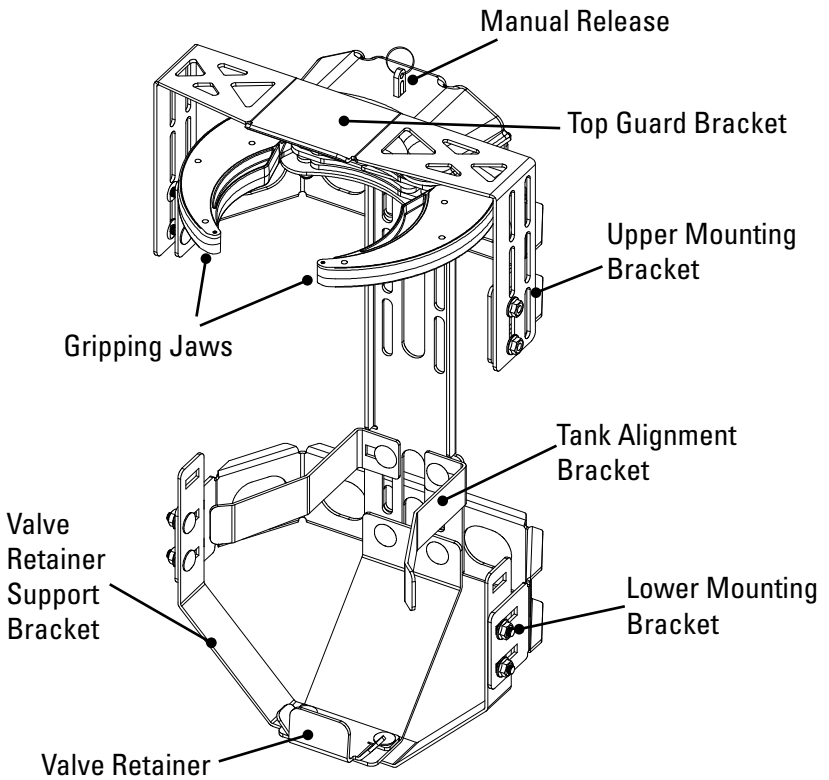
SmartDock™ Part Description



General Information

The SmartDock air pack holder is a device that stages air packs in SCBA seats and is designed to retain the air pack in the event of a crash. To store the tank, place the valve in the valve holder, then tilt the top of the tank into engagement with the jaws.

The NFPA 1901 committee wants to ensure that SCBA bottles stored in the fire apparatus cab do not become projectiles during a crash. For this reason, the standard states that "The bracket holding device and its mounting shall retain the SCBA unit when subjected to a 9-G force."

With traditional SCBA brackets, there are two things that must happen for the bottles to remain in place:

1. *The fire fighter must place the bottle in the bracket and latch it in place.*

2. *The bracket must be strong enough to hold the bottle.*

The first item is the responsibility of the firefighter, and the second is the responsibility of the bracket provider.

The unique feature of the SmartDock Hands Free SCBA holder is that it removes the need for the firefighter to perform any latching, buckling, or strapping action when placing the bottle in the bracket.

Once the bottle is in place, the SmartDock is designed to meet the NFPA 1901 requirements. It does this without any extra action by the firefighter other than properly placing the bottle into the bracket.

The SmartDock jaws uses inertia to grip the bottle as the bracket decelerates. This inertial action alone will hold the bottle in the jaws during the initial impact caused by the crash. At an 8 G or greater deceleration level, a latching device engages to lock the jaw's grip in place, securing the bottle until it is manually released.

This latching device can be reset if the bracket is subjected to a deceleration above 8 Gs, or if the bracket is jarred during SCBA installation. It is adviseable to check that the lock pin on the latching device is in it's FULL UP posiiton each time you insert the SCBA into the SmartDock.

⚠ WARNING

Never modify the latching device on the top of the SmartDock. It could interfere with its function and fail to retain the SCBA tank during a crash. Failure to follow these instructions could result in serious injury or death.

Short of bolting the SCBA bottle to the structure of the cab, there is no way to guarantee that the bottle will always be retained if the crash is sufficiently severe. The SmartDock bracket has been tested to withstand three times the NFPA 1901 requirement during a frontal crash. This capability provides the optimum combination of convenience (eliminating the risk that a firefighter will forget to engage the strap or the latch), and strength (the bottle is retained well beyond the NFPA requirement). For these reasons, we believe that SmartDock provides the safest solution to in-cab SCBA storage available today.

Standards Reference:

NFPA-1901, 2003 Edition, *Standard for Automotive Fire Apparatus*
NFPA-1852, 2002 Edition, *Standard on Selection, Care, and Maintenance of Open-Circuit Self-Contained Breathing Apparatus (SCBA)*

Users must read and follow these instructions. They are written to comply with NFPA guidelines.

Warnings/Cautions

- Read SmartDock User Guide and Installation Instructions before installing or using SmartDock.
- SmartDock is to be used for SCBA bottle and air pack storage only.
- Keep air pack harness loose when seated and belted. Bottle will not stay in holder during a crash if the user has the harness strapped on tightly. Per NFPA Regulation # 1901, SCBA straps should be worn loosely.
- Ensure proper fit of SCBA in SmartDock jaws.
- Ride only with SCBA or parade panel installed in seat.
- Always wear seat belt – SCBA harness will not hold firefighter in a crash.
- Use only with SCBA bottle and air pack weighing less than 35 lbs. Small jaws version – SCBA airpack weight less than 28 lbs.

- **Adjust to fit before use.**

  The SmartDock SCBA holder must be adjusted to fit the SCBA bottle and air pack to be stored in it. Do not store any air pack that does not meet all the adjustment criteria. Storing any SCBA bottle and pack that does not fit properly is dangerous because it may not be retained during a crash.

- **Jaw Gripping/Adjustment**

  The jaws hug the bottle and grip it during a crash. For the jaws to function properly, the bottle must fit as described on page 12. The jaw assembly must be adjusted vertically so it grips the bottle where air pack harnesses, hoses, or other obstructions do not prevent the jaws from closing properly. Do not store any bottle and air pack if the jaws cannot be adjusted so that they are clear of obstructions.

Never modify the SmartDock to adjust the jaws outside of the range provided.

- **Top Guard Bracket Adjustment**

  The top guard bracket is designed to hold the air pack in the SmartDock during a vehicle rollover. It must allow the bottle to fit completely into the jaws. When the bottle is in place there must not be more than 1/2 inch of clearance between the top of the bottle and the guard bracket. Adjust the top guard bracket up or down until there is 1/2 inch of space between the bottle and the guard bracket when the bottle valve is installed properly in the valve retainer.

- **Tank Guide Bracket**

  The tank guide brackets position the SCBA bottle into the SmartDock jaws and help align it with the valve retainer. The tank guide bracket must allow the bottle and pack to fit completely into the jaws and valve retainer. Adjust the tank guard brackets so they lightly touch the sides of the bottle.

- **Valve Retainer**

  During a crash, the air pack is held in place by the jaws and valve retainer. The valve retainer is the receptacle that the valve must fit into. The shape of the bottle valve is not the same for all air pack manufacturers, therefore the proper valve retainer must be used. The valve retainer is labeled to identify which air pack brand that it is compatible with. Verify that the valve retainer brand ID matches the brand of the air pack you are using. If they do not match, the pack may not be retained during a crash. The brand ID label is on the front of the valve retainer. See reference on page 13.

- Air packs must be maintained in good condition and kept clean. Storing dirty, oily, or damaged bottles may affect the ability of the SmartDock to hold the bottle. The SmartDock must be kept clean. Make sure the jaws are kept clean and oil free.
- Without inserting an air pack, check the jaws periodically to make sure they freely open and close. Pushing the jaws open by hand, then releasing can do this. SmartDock jaws should freely open and snap shut.
- If jaws are tight, SmartDock jaw assembly should be lubricated once monthly so the jaws close freely. **Use only Liquid Wrench® High Performance Dry Lubricant applied only to areas shown. Never oil drop pin!**
- Use only furnished grade 5 Fasteners to attach the SmartDock unit to seat brackets.

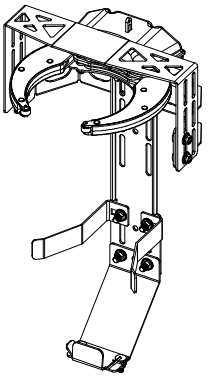
Lubrication points

⚠ WARNING

Failure to install, maintain and use SmartDock in accordance with the instructions in this Installation User's Guide and those provided by the Vehicle Manufacturer can result in serious injury or death.

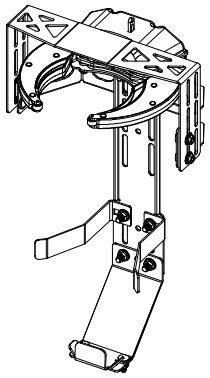
SmartDock Units for PS6 Seats (center tab mounting seats)

Part Number Identification



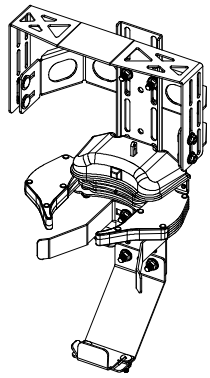
1689086
F101750 SCBA Holder
Large Tank - PS6 Low Profile Tab

Blue



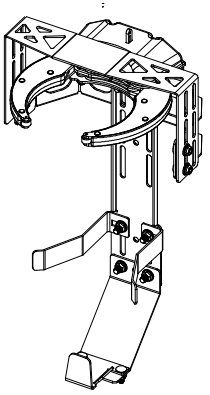
1708900
F101752 SCBA Holder
Medium Tank - PS6 Low Profile Tab

Black



1769698
F102825 SCBA Holder
Small Tank - PS6 Low Profile Tab

Silver



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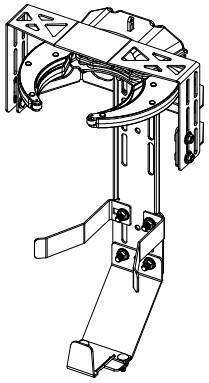
F101848 SCBA Holder
Large Tank - PS6 High Profile Tab

Blue



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F101849 SCBA Holder
Medium Tank - PS6 High Profile Tab

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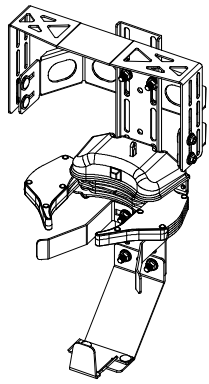

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F102824 SCBA Holder
Small Tank - PS6 High Profile Tab

Silver

SmartDock Units for Non PS6 / Retro Fit Seats (seats without center tab mount)

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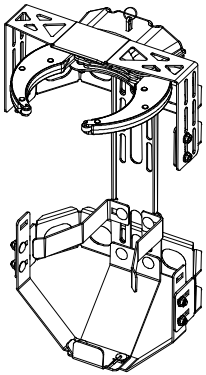
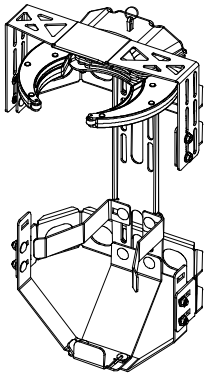


1708901
F101753 SCBA Holder
Large Tank -Retro Low Profile Tab

Blue



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Medium Tank -Retro Low Profile Tab

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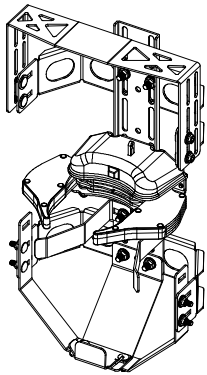

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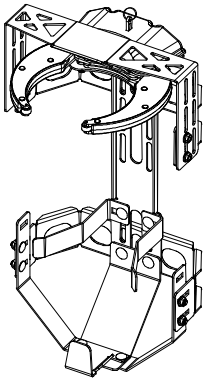
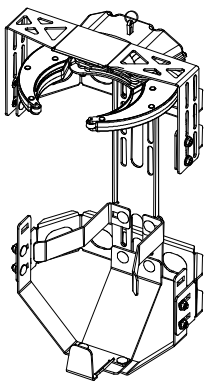
F102823 SCBA Holder
Small Tank -Retro Low Profile Tab

Silver



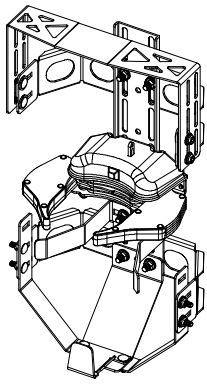
1725339
F101850 SCBA Holder
Large Tank -Retro High Profile Tab

Blue



1725341
F101851 SCBA Holder
Medium Tank -Retro High Profile Tab

Black



1769702
F102822 SCBA Holder
Small Tank -Retro High Profile Tab

Silver

SmartDock PS-6 Seat Installation
(center tab mounting seats)

⚠ WARNING

If wrong valve retainer and/or jaw assembly is used, the air pack may not be retained during a collision and could result in serious injury or death.

Step 1 Upper Attachment

Position the SmartDock as shown. Align holes in upper mounting bracket with corresponding holes in seat bracket (with seat bracket on the outside). It may be necessary to adjust upper mounting bracket of the SmartDock to align with holes in seat bracket. Secure the SmartDock upper bracket to seat brackets using supplied grade 5, 5/16-18 UNC bolts. Four bolts are required for upper bracket attachment. Bolt SmartDock onto seat bracket as far forward as possible while maintaining proper air pack positioning to a seated user's back. Install nuts onto bolts and hand tighten at this time.

Step 2 Lower Attachment

For PS6 seats, the SmartDock lower attachment point is through the valve retainer. Remove two nuts holding valve retainer to the Smart Dock.

Step 3 Securing Lower Bracket

Position valve retainer and lower bracket of the SmartDock to holes they closely align with bracket on seat. Insert two bolts through valve retainer, SmartDock bracket and seat bracket. Install nuts onto bolts and hand tighten at this time. **The SmartDock should be installed as perpendicular as possible to the floor of vehicle cab.**

Step 4 Top Guard Bracket

Insert the air tank style to be used. Remove the nuts holding SmartDock to seat bracket. Install the top guard bracket so that it has about ½ inch of clearance between top of the tank and bottom surface of top guard bracket. Center top guard bracket over tank. Reinstall two nuts on each side and hand tighten at this time.

Step 5 Verify Tank Fit/Secure Fasteners

Verify air tank fits properly in SmartDock so it is comfortable to the user. It may be necessary to adjust the SmartDock once air pack is installed. Remove air pack and readjust position of SmartDock by reviewing steps 2-4 above.

Important: Once SmartDock is properly fitted for the air tank, torque 5/16-18 fasteners holding the SmartDock to seat brackets to 19 ft-lbs. Torque all other 3/8-16 fasteners to 33 ft-lbs.

Step 6 Final Inspection

After the SmartDock has been successfully installed into the seat, insert air pack into seat making sure top of the tank does not scrape top guard bracket. If it does, adjust top guard bracket to provide ½ inch of clearance.

Be sure all mounting fasteners are properly secured. See torque requirement in Step 5.

Daily Maintenance and Inspection

Air pack can be removed by either twisting the pack slightly while pulling the unit out or by using your thumb to push back one side of the jaw slightly and then extracting the air pack.

SmartDock Installation
Non-PS6 Retro Fit Seats
(seats without center tab mount)

⚠ WARNING

If wrong valve retainer and/or jaw assembly is used, the air pack may not be retained during a collision and could result in serious injury or death.

Step 1 Upper Attachment

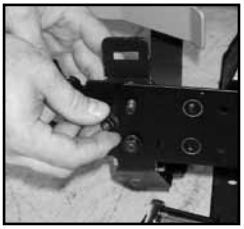
Position the SmartDock as shown. Align holes in upper mounting bracket with corresponding holes in seat bracket. It may be necessary to adjust upper mounting bracket of the SmartDock to align with holes in seat bracket (seat bracket on the outside).

Secure the SmartDock upper bracket to seat brackets using supplied grade 5, 5/16-18 UNC bolts. Four bolts are required for upper bracket attachment.

Bolt SmartDock onto seat bracket as far forward as possible while maintaining proper air pack positioning to a seated user's back. Install nuts onto bolts and hand tighten.

Step 2 Lower Attachment

Remove nuts from lower mounting brackets. Make sure bolts for lower mounting bracket are through both sides of valve retainer support bracket and are connected to the two seat brackets.



Four bolts are required for lower bracket attachment. Install nuts onto bolts and hand tighten. It may be necessary to adjust lower seat mounting bracket to align with SmartDock bracket. **The SmartDock should be installed as perpendicular as possible to floor of vehicle cab.**

Step 3 Top Guard Bracket

Insert the air tank style to be used. Remove nuts holding SmartDock to seat bracket. Install the top guard bracket so that it has about ½ inch of clearance between top of the tank and bottom surface of top guard bracket.

Center top guard bracket over the tank. Reinstall two nuts on each side and hand tighten at this time.

Step 4 Verify Tank Fit/Secure Fasteners

Verify air tank fits properly in SmartDock so it is comfortable to the user. It may be necessary to adjust the SmartDock once air pack is installed.

Remove air pack and re-adjust position of the SmartDock by reviewing steps 2-3 above.

Important: Once SmartDock is properly fitted for the air tank, torque 5/16-18 fasteners holding the SmartDock to seat brackets to 19 ft-lbs. torque all other 3/8-16 fasteners to 33 ft-lbs.

Step 5 Final Inspection

After the SmartDock has been successfully installed into the seat, insert air pack into seat making sure top of the tank does not scrape top guard bracket. If it does, adjust top guard bracket to provide ½ inch of clearance.
Be sure all mounting fasteners are properly secured. See torque requirement in Step 4.

Daily Maintenance and Inspection

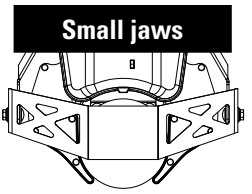
Air pack can be removed by either twisting the pack slightly while pulling the unit out or by using your thumb to push back one side of the jaw slightly and then extracting the air pack.

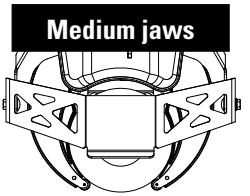
SmartDock Gripping Jaws

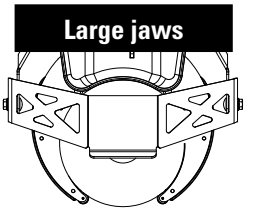
Gripping Jaw Sizes

There are three sizes of SmartDock gripping jaws.
Small jaws are for holding tanks with diameters ranging from 5.0" to 5.5" and have a **silver band** on the jaws.
Medium jaws are for holding tanks with diameters ranging from 5.4" to 6.3" and have a **black band** on the jaws.
Large jaws are for holding tanks with diameters greater than 6.3" up to 7.25" and have a **blue band** on the jaws.

Important: The size of jaws is determined by tank diameter, not air pack brand. You must know your tank diameter.







⚠ WARNING

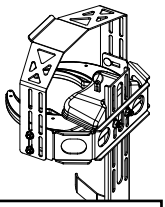
If you place the wrong diameter tank into the SmartDock, it may not be retained during a crash and could result in serious injury or death.

Position of Jaws on Tank.

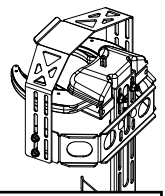
It is best to locate the jaws as close to the top of the tank as possible, but never on the crown of the tank. The jaws need to be positioned in the best location so they are clear of obstructions such as hoses, battery packs and pack frame structure, and they are free to open and close. Depending on air pack, it may be necessary to bolt jaw assembly above the upper mounting bracket holes. For some tanks, it may be necessary to mount jaws below the tank's securing strap. If so, mount jaws as close to strap as possible without jaws being obstructed. **Never mount jaws near the bottom of tank.**

If the jaws are mounted above or below the upper seat mounting bracket, there is an extra set of 3/8 bolts and nuts to bolt the SmartDock to the upper bracket.

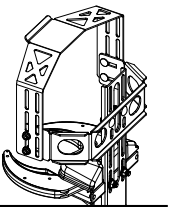
SmartDock jaws must be properly adjusted to the air pack tank. If not adjusted properly, the air pack may not be retained during a crash. Verify you have proper size gripping jaws and that the jaws are positioned for tanks you intend to use with SmartDock. See page 5 for proper adjustment of top guard bracket.



Jaws through bracket



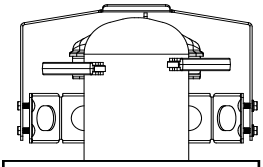
Jaws above bracket



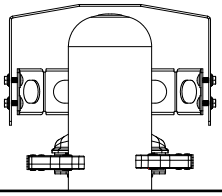
Jaws below bracket

Verify Position of Jaws

After all adjustments have been made and fasteners tightened, place air pack into SmartDock. Push jaws together. If jaws can not freely open and close on the tank, the jaws are not properly adjusted. Check again to make sure hoses, battery packs or pack frame structure does not obstruct the jaws. If jaws do not freely open and close on the tank, re-adjust brackets to obtain proper fit.



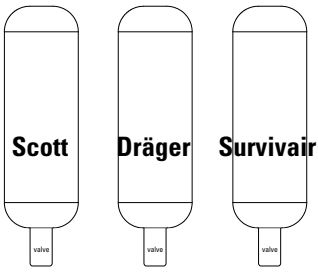
Verify jaws position and function



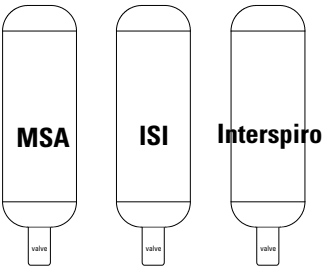
Verify jaws position and function – small jaws

SCBA Bottle and Valve Retainer Selection

SCBA Tank Styles



Low profile valve retainer



High profile valve retainer

⚠ WARNING

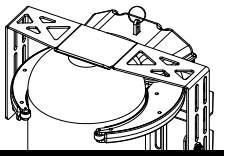
If you are unable to determine what type or size of tank you have, do not use SmartDock. Using an unapproved tank and or valve could result in the tank being released in a crash. Serious injury or death could result. Contact 317-867-8383 if you have questions regarding fit and use of SmartDock.

SmartDock Use

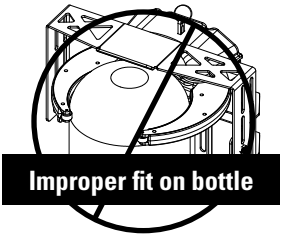
Use the following steps to safely ride in seat when riding to a fire:

1. Don bunker gear prior to entering the cab.
2. Enter cab safely using a three-points-of-contact method.
3. Don air pack that is stored in the seat back.
4. Leave the SCBA pack harness loose until you exit the seat.
5. Buckle Seat Belt.
6. Indicate to driver that you are buckled safely in the seat.
7. Ride safely to the fire scene.
8. Do not unbuckle seat belt until the vehicle has come to a stop, the parking brake is engaged, and the officer indicates it is safe to exit the cab.
9. Tighten pack harness straps and exit the seat by twisting slightly before standing to allow release from the SmartDock.
10. Ride only with SCBA or parade panel installed in seat.

Securing the Air Tank



Proper fit on bottle



Improper fit on bottle

The jaws hug the air tank and grip it during a crash. For jaws to function properly, the air tank must fit as shown in the illustration. The jaws are adjusted vertically so they grip the air tank where air pack harnesses, hoses, or other obstructions do not prevent the jaws from closing properly. If jaws do not appear to be adjusted properly see page 12**. Do not store bottle and air pack in the SmartDock if the jaws are not totally clear of obstructions.**

Top Guard Bracket

The top guard bracket must allow the bottle to fit completely into the jaws when the air tank is inserted. This bracket holds the air pack in the SmartDock during a vehicle rollover. When the bottle is in place there must not be more than ½ inch of clearance between the top of the bottle and the guard. For top guard adjustment see page 9 and 11.

Verify Valve Retainer

Be sure correct valve retainer is being used. During a crash, the air pack is held in place by the SmartDock jaws and valve retainer. The valve retainer is the receptacle that valve must fit into. **The shape of bottle valve is not the same for all air pack manufactures, therefore the proper valve retainer must be used.** The valve retainer is labeled to identify which air pack brand that it is compatible with. For valve retainer and air pack matches see page 13.

Low profile

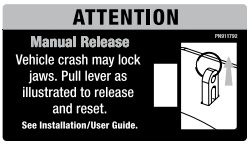
High profile

Verify Air Tank Fit

Insert air pack into seat, making sure top of the tank does not scrape top guard bracket. Air pack should be able to be removed by either twisting the pack slightly while pulling the unit out or by using your thumb to push back one side of the jaw slightly. This will allow extraction of the air pack. The air pack will be more difficult to remove when not performing either of the above actions.

⚠ WARNING

Do not store an air pack in SmartDock that does not meet all installation and adjustment requirements in this manual. Failure to install and adjust SmartDock correctly could result in serious injury or death.


ATTENTION
Manual Release
Vehicle crash may lock jaws. Pull lever as illustrated to release and reset.
See Installation/User Guide.

Manual Release of SmartDock

In the event of a vehicle crash which exceeds 8 Gs, or if the seat or SmartDock is significantly jarred, the tank will need to be released manually. For manual release and reset of system, pull release lever as illustrated. See instruction label on top of SmartDock cover. Make sure pin is in its full up position per figure on right

It is recommended that the SCBA tank is removed from SmartDock when tilting cab for maintenance.

SmartDock Maintenance

The SmartDock needs to be kept clean. Make sure the jaws are kept clean and oil free. Without inserting an air pack, check the jaws periodically to make sure they freely open and snap shut. This can be done by pushing the jaws open by hand, then releasing. If they do not freely open and snap shut, the SmartDock jaws can be lubricated per instructions on page 5.

Air Pack

Air packs must be maintained in good condition and kept clean. Storing dirty, oily, or damaged bottles may affect the ability of the SmartDock to hold the bottle. For proper maintenance of air packs, refer to: *NFPA 1852 Standard on Selection, Care and Maintenance of Open-Circuit Self-Contained Breathing Apparatus (SCBA).*

Installation Assistance

For additional information, visit **lifeguardtechnologies.com**.

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